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Adaptive Physical Education through Aquatic Activities for Children with Motor Barriers

Dewi Daryati, Imas Diana Aprilia

Universitas Pendidikan Indonesia, Indonesia
E-mail: dewidewidee@gmail.com

Abstract: This article examines adaptive physical education through aquatic activities for children with motor barriers. This research is based on several problems faced by children with motor impairment who are not able to fully participate in physical education activities through aquatic exercises. It is caused by the inexistence of systematic and integrated guidelines to which an instructor can refer when giving aquatic exercises to children with motor delay. Adaptive physical education through aquatic activities is really helpful in optimizing motor ability of those children with motor delay. This research aims at figuring out the implementation of adaptive physical education through aquatic activities for children with motor barriers. This research applies descriptive method. Data are collected through observation, interview, literature study, and documentation. Research finding shows that there is not any special learning planning yet which is adjusted to the ability of children with motor barriers. The exercises given to children with motor barriers are made the same with general exercise program and the evaluation of the training results is not yet consistent.
Keywords: adaptive physical education, aquatic activity, children with motor barriers.

INTRODUCTION

One of children development types is motor development it functions as the heart of life because human lives since movement exists (Soetjiningsih, 2012). The improvement of motor performance spots the main attention from therapeutic intervention and adaptive physical education through aquatic activities for children with motor barriers. Aquatic therapy is ow viewed as a beneficial activity for children with motor development impairment (Broach & Datillo, 1996; Becker, 2009). Through aquatic activity, they are given opportunities to improve physiological and psychological achievement. Aquatic activities train the whole body without giving extreme pressure on some parts so that it gives joyful atmosphere for children (Broach & Datillo, 1996; Becker, 2009). Aquatic environment with warm temperature of 32-33 Cº can reduce the injury impact on the muscle tone which enables more efficient movement for children with high muscle pressure (Adams & McCubbin, 1991). Water therapeutic quality makes use of buoyancy, which entertains the possibility of reaching the independent movement which cannot be accomplished on land (Getz and Brown, 2006).

Children with motor impairment need to get special treatment adjusted to the condition in every activity. Physical education through aquatic activities for students with motor barriers needs to construct special treatment to accommodate all movement needs in the water. It certainly is accomplished with several modifications to enable individuals with barriers to get opportunities to participate in safe, successful, and satisfying manner (Hosni, 2003). Thus, adaptive physical education acts as an education which provides the opportunity for students with motor barriers to be able to actualize physical activities through directed and planned program. Adaptive physical education through aquatic activities is done to manage condition by focusing on function, movement process, and optimal utilization of children's potentials. These aquatic activities are quite difficult as they are done in water which is different from physical movement on land. Aquatic activities aim at strengthenning, maintaining, and recovering physical, psychological, and social condition. Several therapeutic interventions have been used to optimize development on motor stuff, increase active range of motion, improve muscle and mobility strength, obtain functional motor skills, and support functional independence at home, school and society (De Clerck, Cevidanes, & Baccetti, 2010). Aquatic activity intervention is a popular additional treatment for children with motor barriers, especially those with Celebral Palsy (Getz and Brown, 2006), which gives alternatives and safe and beneficial impact for children with motor development barriers (Fragala-Pinkham et al., 2008).

In kindergarten and primary schools, there is about 10-15% of children suffering from motor delay. They look slower, frequently experience small accidents when moving, and trip over their own feet (Von Loh, 2017). In 2007, around 35.4% of Indonesia children under five years old suffers from development delay such as delay on gross motor, fine motor, and mental

emotional deviations. In 2008, based on the status monitoring of toddler's development, the prevalence of development decreases into 23.1%. It is caused by the improvement of Indonesian education program. Referring to UNICEF data in 2011, it identified a high rate of growth and development impairment on children under five years old especially motor development impairment which was identified as much as 27.5% or almost 3 million children with the impairment. Motor coordination and balance impairment is a complex disorder and is experienced by 6%-13% of children population marked by a very heterogeneous clinical description (Fadlayana et al., 2016). The majority of children with motor impairment possesses low mobility capacity and less physical performance. Therefore, children with motor barriers have bigger need for movement. As a consequence, adaptive physical education has to become a main program of education for children with motor barriers on the whole because it functions as a basis to improve the necessary body functions (Abdoellah, 1996).

METHOD

This research is accomplished in an institution which deals with sport, health, and education in Bandung City. The selection of the research site is based on the consideration that the place has administered adaptive physical education through aquatic activities for children with development impairment (including children with motor barriers) which holds cooperation with inclusive schools or special schools in Bandung for about 12 years. The involved instructors are those trained instructors who have attended aquatic training and license for children with development impairment.

The method applied in this research is descriptive qualitative by employing data collection techniques of observation, interview, documentation, and literature study. Research procedure was started by a preliminary study investigating data on children's motor objective ability and aquatic activity exercise in the institution/ center of X therapy in Bandung. The data were then formulated as a hypothesis description and were analyzed using qualitative analysis supported by scientific literature.

FINDINGS AND DISCUSSION

Findings

The findings of this research are based on the result of literature study, observation, and interview by researchers in an institution which administers aquatic activities in Bandung. The results of data analysis are several componentsa of training strategies applied by the aquatic instructor namely: 1). Observation and assessment, as processes of collecting initial data through activities of systematic observation and record on children's ability, barriers, and needs. 2). Training activities based on the program. The activities are divided into 3 sessions; warming up, aquatic exercise, and cooling down. Each session has been accomplished by the instructor in interesting and fun way so that the majority of children is able to follow it. However, a few children with motor barriers tend to stay mute 3). Information delivery. During the activity, the information can be absorbed and followed by most of children. However, some children with motor barriers still look confused when they have to do movements as instructed. 4) Children participation. In this activity, children have to take part and attend training according to what the instructor demands although there are several children including those with motor impairment stay silent, are afraid of getting into water, play on their own, have a chat, and do any other activities which interfere the aquatic exercises. Those children have been warned and invited to join the exercise but they act ignorant. 5) Evaluation activity. This activity functions to evaluate children's capacity after attending the training for 12 times and functions as a reference whether or not the program is successful. However, this evaluation is not yet consistently carried out by the instructor which then results at difficulty in seeing children's motor improvement in the next activities. From the findings, this research will analyze the instructor's needs in implementing adaptive physical education through aquatic activities for children with motor barriers. Observation data of adaptive physical education can be summarized as follows.: 1) There is no special training planning yet which is adjusted to the ability of children with motor barriers b) Exercises which are given to children with motor impairment are the same with those training program for children in general. c) Evaluation on the training result for children with motor development impairment is not yet consistently and continuously accomplished.

The resut of interview to the coordinator of the division of aquatic activity for disabled children shows that the practice of adaptive physical education through swimming activity has been consistently done because it already cooperates with several inclusive schools and special schools in Bandung. However, the biggest barrier faced is instructor's difficulty in implementing adaptive physical education through aquatic activity according to the need of children with motor barriers in the field. In planning adaptive physical education through aquatic activity, it has to begin with assessment first, mainly in the beginning of aquatic training. Assesment is a process of collecting information continuously to measure the performance of students with motor barriers and learning process. A valid assessment is beneficial to optimally develop

several aspects of children with motor barriers namely physical, social, emotional, intellectual, and spiritual aspect. The interview result to instructors shows that they are still very confused with the training program which has to be presented for children with motor impairment. Therefore, instructor finds it very difficult to give exercises with relevant movement for children with motor disability in the field. Thus, systematic arrangement is necessary starting from assessment up to evaluation for children with motor impairment intensively.

Discussion

Aquatic activity covers all activities done in the water and aim at training children to obtain improvement in motor, cognitive, affective, and social potentials. Aquatic activity is actually a training process which makes use of physical activity using water as the medium to produce holistic transformation in individual quality in terms of physical, mental, and emotional aspect. In present reality, aquatic activity, both its activity and medium of swimmingpool, has gained function as hydrotherapy to overcome health problems like hypokinesia, musculoskeletal, internal disease, and psychological problems. The implementation of aquatic activity for children with motor impairment is not the same with that for common children because each child has his own characteristic and need. Thus, more special training program which has been adjusted to what those children really need is necessary. Although in practice it is usually done with other children, the program must be distinguished from the general program. To achieve maximum training outcome, training development and modification are needed to fulfil the needs of each child. The present reality is that aquatic activity is accomplished based on conventional aquatic programs which do not accommodate the needs of each child with motor barriers on the whole.

The participation of children with motor barriers in adaptive physical education practice tends to be lower than other regular children. It is because motor barriers that they have slower the training process. Motor barriers are known to cause various psychosocial, mental, and physical effect led to greater limitation of activity and participation among children with motor impairment in their environment. Motor capacity which is not optimum can cause decrease on children creativity in adapting with their environment. Late motor development can affect balance and coordination which then will also impact sport and everyday activities such as walking, jumping, and running. This will be problematic for children when movement balance and coordination are not good. They will frequently fall so that they are not capable of maintaining their own balance and it will cause them to get away from the environment (Permana, 2012).

Aquatic activity process is inseparable from children potential development in three domains namely basic psychomotor skill, basic attitude, and basic understanding. The indicator of children aquatic success is not located on how far children can swim or how many swimming styles they can master, but it depends on how many skill indicators are completed. The implementation of aquatic activity given to children with motor barriers seems to be not maximum yet. It is proven by the fact that children with motor impairment do not make any maximum improvement yet according to aquatic program which has been established. It happens because a) Instructor's understanding on children with motor barriers is not adequate. b) Planning of special training program for children with motor barriers is not relevant with children's capacity. c) The training practice for children with motor barriers is made the same with those for common children. d) Evaluation on training for children with motor barriers has not been consistently and continuously done. e) Parents are not consistent toward the agreed training schedule. f). Parents are still lack of understanding on aquatic activity for children development.

Despite many barriers taking place in the management of aquatic activity today, a number of positive things have been done by institution and instructor to improve the performance of this aquatic activity. The work procedures of aquatic activity which need to be accomplished in more detailed are: 1) Assessment. It aims at obtaining initial data functioning as materials which must be examined and analyzed to formulate the next program. Assessment covers three ways namely anamnesa, observation, and test. Other supporting data, such as expert examination, are also necessary. 2) Diagnosis and prognosis. After data are collected, the data are used as materials to determine diagnosis and types of barriers/obstacles to construct prognosis on how optimum the children can make improvement. 3) Aquatic activity program planning. This program generally consists of: (a) Goal and program (long term, short term, and daily), (b) Method, technique, frequency, and duration planning, (c) Tool usage planning, (d) Reference planning (if necessary), (e) Evaluation planning. 4) The practice of aquatic activity. Its practice has to refer to the goal, technique/ method, tools, and facilities. The learning process of aquatic activity can be accomplished by applying learning strategies and being independent toward the existence of teacher, starting from warming up, aquatic exercise up to cooling down. The implementation of aquatic activity attempts to minimize the role of teacher in the swimmingpool area to provide more ease for the instructor to give training 5) Evaluation. This activity is accomplished by the instructor and other expert teams to re-assess children's condition by comparing the condition before and after aquatic activity. The

resuts will then be used to formulate the next program. 6) Result report. Report should cover every step starting from assessment up to the end and evaluation step of aquatic activity program. This procedure functions as an intervening management system of aquatic activity to improve physical and muscle functional performance on land and in water. Thus, it is recommended that an aquatic professional has to complete functional assessment in water- and land-based environment (Campion, 2000; Styer-Acevedo, 1997). A valid assessment is able to give information to the instructor about the present condition and capability of the children. This opens the opportunity to compose planning for future training session according to children's needs (Campion, 2000).

This procedure has to be administered in the field as a treatment reference given to children with motor barriers to optimize their functional capability in the future. This idea is in line with what Lepore et al. (1998), state that functional improvement in aquatic environment on children with impairment might be very slow, and every time-to-time transformation cannot be maintained on a dichotomy scale. Thus, a valid and accountable assessment tool should be utilized as a follow-up of children improvement and as a guide for instructor to plan and adjuct the goal and strategy of training. Assessment tool is based on a particular training concept so that it enables assessment and evaluation to take place, and facilitates instructors in implementing aquatic intervention program in the field.

CONCLUSSION

The implementation of adaptive physical education through aquatic activity in this institution which administers aquatic program has not been accomplished optimally as the implementation of this program is not yet systematic, integrated, and according to the needs of each child with motor barriers in the field.

Adaptive physiscal education program through aquatic activity covers: a) observation and assessment activity, b) program implementation, and c) evaluation modified according to children's need.

Opportunities and challenges of adaptive physical education through aquatic activity are really great. Thus, a special guidance about the program is necessary so that implementation in the field will be easier to do.

Referring to the strength and limitation of the findings of this research, a systematic and integrated guidance to provide more ease in the implementation of adaptive physical education through aquatic activity is necessary. Thus, it can accommodate the needs of children with motor barriers when doing aquatic activity within individual or group setting.

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